

Subject: Computer Science

Year group: 8

Department Curriculum Vision: Enabling students to understand and learn how to use technology effectively and safely,as well as, developing their computer coding skills, preparing them for the increasingly digital world.

	Autumn Term 1	Autumn Term 2
Content: (Know what...)	E- Safety and Digital Literacy • To understand the term Privacy. • Define the Data Protection • Define Data security. • Aware of what E-Safety entails.	Introduction to Python Programming • Python Programming • Python:Sequence. selection and iteration.
Skills: (know how...)	• To link the Data Protection Act to various scenarios. • Able to list what may violate this Act. • Able to define what Data Security is. • Able to describe measures that they can put into place to secure networks. • Able to describe how to reduce the risks to stay safe online.	• To understand how a selection statement is constructed. • To be able to implement a selection statement in Python. • To understand how an iteration statement is constructed. • To be able to implement an iteration statement in Python. • To understand how a sequence statement is constructed. • To be able to implement a sequence statement in Python.

Key vocabulary	E-Safety Password CEOP Cookie Anti-Virus Cookie Firewall	Selection Sequence Iteration Loops Branching Statements
Mid Term Assessment	E Safety terms and how to stay safe in a digital world.	- Using logical reasoning to write suitable code - Debugging of algorithms
End Term Assessment	E Safety terms and how to stay safe in a digital world.	- Using logical reasoning to write suitable code - Debugging of algorithms
	Spring 1	Spring 2
Content: (Know what...)	Computing Systems - Inputs - Outputs - Storage - Processing - Artificial Intelligence	Using Media - Use of Word processing - Laws around digital assets - Bias- searching and sourcing on the Internet

Skills: (Know how...)	• The internal components of a computer work. • What each component is responsible for. • How a computer loads a program. • To describe which storage type is suitable for different scenarios. • AI can have an impact on our lives.	• Use of Word processing. • Specific Laws protect digital assets. • Which type of commons Law can be used to. • To search and source on the Internet effectively.
Key vocabulary	Input Output Keyboard Mouse Magnetic disk drive CD USB Stick	Bias Copyright, Design and Patents Law Creative Commons Law Secondary sources Primary sources
Mid Term Assessment	• Inputs • Outputs • Storage • Processing • Artificial Intelligence	• Use of Word processing • Laws around digital assets • Bias- searching and sourcing on the Internet
End Term Assessment	• Inputs • Outputs • Storage • Processing • Artificial Intelligence	• Use of Word processing • Laws around digital assets • Bias- searching and sourcing on the Internet

	Summer 1	Summer 2
Content: (Know what...)	Programming Text based - Python with Turtle • Python Programming • Python:Sequence and iteration.	Data representation • Representing data: images, sound and text • AI
Skills: (Know how...)	• Import a library into Python. • Use iteration to create a shape, saving time and being efficient. • Use sequence construction to create complex shapes.	Images, sound and text are represented on a computer. How binary is linked to colours. How digital sound is produced. How text is stored and read by the computer. How to add in binary. How AI works . Benefits and drawbacks of AI.
Key vocabulary	Iteration Sequence Range Shape Sides Length Edge	Text Sound Image Pixels Binary Bits Colour depth Reinforcement learning Supervised Unsupervised
Mid Term Assessment	• Demonstrates how arithmetic operators, if statements, and loops, are used within programs. • Declares and assigns variables.	• Representing data: images, sound and text • AI key terms.

End Term Assessment	• Demonstrates how arithmetic operators, if statements, and loops, are used within programs. • Declares and assigns variables.	• Representing data: images, sound and text • AI key terms.
Additional information		
Homework	• Variety of homework for each topic will be set Some examples are below: • Debug the following code • What do the following Python programs do. • Is this real news or fake news? • Bias when searching • Adding Binary numbers. • How are the following sound waves represented using a binary format.	
Extra curricular and enrichment opportunities	Technology Ambassadors Club Coding Club Techni Girls Club	
Useful links that will support learning	http://www.codeacademy.com https://senecalearning.com/ Key Stage Three Computing CGP resources	
How parents can support learning	Check and support homework using Satchel One.	

